

Some Corrections in *Somatochlora* (Odonata— Dragonflies).

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In the ENTOMOLOGICAL NEWS, April, 1906, pp. 136-138, Plates V. and VI., I published some notes and figures of species of *Somatochlora*. Since that time M. Martin's Cordulines, Coll. Zool. du Baron Edm. de Selys Longchamps, has been published; and this and correspondence with Dr. Calvert and the examination of other material show some serious errors in my earlier paper. M. Martin's figures of *S. hudsonica* are of a species entirely unknown to me, and all that is said in my paper under this name refers to *septentrionalis*. In fact, I so named Dr. Atkinson's Newfoundland specimens, and they still bear this label, the change in my MS. being made when I discovered in the Harvey collection a male specimen of a different species labelled *septentrionalis*. It now appears that the Harvey specimen should be referred to *franklini*. This is the specimen listed under No. 72, p. 9, in Professor Harvey's Catalogue and Bibliography of the Odonata (Dragonflies) of Maine, University of Maine, Studies No. 4, published after Professor Harvey's death. Professor Harvey's first reference to the species is in the ENT. NEWS., November, 1901, p. 275. In the Harvey material in my collection is a teneral female of the same species, taken at Orono, Maine, June 2, 1899, Bartle Harvey. This specimen has the vulvar lamina and wings as described by de Selys and Hagen for *franklini*. Hence in Professor Harvey's papers and in my paper all notes and figures under *septentrionalis* refer to *franklini*. The necessity for these corrections have been known to Dr. Calvert and myself for some time, and my attention was first called to them in a letter from Dr. Calvert. M. Martin, in his paper mentioned above, on p. 25, under *S. franklini*, quoted de Selys' description, in Syn. des Cordulines, of the male appendages of *S. septentrionalis*. This description, so quoted, if my present determinations are correct, is gravely misleading. In fact neither de Selys or Hagen ever described the male of *franklini*, and there is no evidence that either knew it. Hagen, in his Syn. Od.

America, 1875, adds Saskatchewan River to its range, but the material for this record is not mentioned.

Recently at Urbana, Illinois, through the kindness of Mr. C. A. Hart, I examined the dragonflies in the Bolter collection, now the property of the University of Illinois; and we found there five males and two females of a *Somatochlora*, all labelled Duluth, Minn., which are decidedly interesting in this connection. The appendages of the male agree with those of Harvey's male of *franklini*, fig. 1. pl. V., of my earlier paper, and the individuals from the two localities are otherwise very similar. However, I believe they are distinct, and the differences are pointed out in the following description:

***Somatochlora macrotona* n. sp.**

Abdomen, including appendages, ♂ 41-42, ♀ 40-41; hind wing ♂ 27-28, ♀ 26-27.

In both *franklini* and *macrotona* the ♂ appendages suggest *forcipata* and *semicircularis*, and in the two species, *franklini* and *macrotona*, are indistinguishable so far as I can determine. As in *franklini* the basal spot on the hind wings in the ♂ is small and extends no farther than the anal loop, and may extend only slightly and indistinctly beyond the anal triangle. In *macrotona* this spot is paler, but the specimens may be faded by exposure to light. The only differences I am able to detect between the males of the two species are in the length of the abdomen (41-42 in *macrotona* as compared with 36-37 in *franklini*), and the relative robustness of the head (7 wide in *macrotona*, 6.5 in *franklini*).

The ♀ shows the same great difference in length of abdomen when compared with *franklini* (40-41 in *macrotona*, 33 in *franklini*), and leaves no doubt as to which species deSelys had before him. The head, as in the ♂, is wider than in *franklini*. Moreover, the female appendages of *macrotona* are 3 long, as compared with 2 in *franklini*. In both species the vulvar lamina is a dish-shaped ellipse, reaching the end of the ninth abdominal segment. But on the second segment of the two females of *macrotona* genital lobes fully half as large as those of the male of the same species are developed. I know of no such development in any other species of *Somatochlora*. At first glance I thought the apical abdominal appendages of a female specimen had been attached by some careless student to a male individual. It is altogether unlikely that de Selys could have overlooked such a character in the two examinations he made of the ♀ type of *franklini* in the British Museum (the specimen later incorporated in his own collection). The type ♂ and ♀ of *macrotona* are in the Bolter Collection, University of Illinois, Urbana.

Some venational characters of the ♂ and ♀ of *franklini* and the 5 ♂ and 2 ♀ of *macrotona* have been noted. The subtriangle in hind wing is present in all. In both species M₄ and Cu₁ in front wing are strongly convergent, never more than 2 rows of cells between these veins beyond the first row of post trigonal cells, excepting occasionally at the extreme wing margin where there may be from 1 to 3 small cells. This character is valuable in defining groups within this genus. There is considerable variation in the distal end of the anal loop, due to the weakness of the enclosing veins, and the width at the extreme apex may vary from 2 to 4 cells. Other venational characters may be tabulated for clearness. These characters are given without any implication that specific venational differences exist between the two species. In the two the size of the wings is nearly the same, *franklini* being possibly 1 shorter. *Macrotona* has the longest abdomen, relative to alar expanse, of any species of *Somatochlora*.

CHARACTERS	<i>Macrotona.</i>		<i>Franklini.</i>	
	♂	♀	♂	♀
Triangle front wing followed by 2 rows of cells	3	4	2	2
Triangle front wing followed by 3 rows of cells	7			
Triangle hind wing followed by 2 rows of cells	8	4	2	2
Triangle hind wing followed by 3 rows of cells	2			
Triangle front wing without cross-vein (open)	4			
Triangle front wing with cross-vein.....	6	4	2	2
Triangle hind wing without cross-vein (open)	6	2		1
Triangle hind wing with cross-vein.....	4	2	2	1
Antenodals front wing.....	1 with 6. 8 " 7. 1 " 8.	3 with 6. 1 " 7.	1 with 7. 1 " 8.	1 with 6. 1 " 7.
Postnodals front wing.....	2 with 4. 4 " 5. 3 " 6. 1 " 7.	4 with 5.	1 with 7.	2 with 6.
Antenodals hind wing.....	9 with 5. 1 " 4.	4 with 4.	2 with 5.	2 with 4.
Postnodals hind wing.....	3 with 6. 6 " 7. 1 " 8.	1 with 5. 3 " 6.	2 with 8.	2 with 6.